CLAIMS:

We claim:

1. A process to produce a multimodal polyolefin in a single reactor comprising:
   a) continuously combining a catalyst component slurry with a catalyst component solution to form a catalyst composition;
   b) combining the catalyst composition with one or more olefin(s) in a polymerization reactor to form a multimodal polyolefin;
   c) measuring a sample of the multimodal polyolefin to obtain an initial multimodal polyolefin property;
   d) changing the amount of catalyst component solution combined in (a) relative to the amount of catalyst component slurry to obtain a second product property; and
   e) isolating the multimodal polyolefin product;

   wherein the catalyst component slurry comprises one or more catalyst compounds, one or more activators and one or more support materials; and the catalyst component solution comprises one or more catalyst compounds, wherein the catalyst compounds may be the same or different.

2. The process of Claim 1, wherein the catalyst component slurry comprises a first catalyst compound and the catalyst component solution comprises a second catalyst compound.

3. The process of Claim 2, wherein the first catalyst compound is a Group 15 containing metal compound and where in the second catalyst compound is a bulky ligand metallocene compound.

4. The process of Claim 2, wherein the molar ratio of the first catalyst compound to the second catalyst compound in the catalyst composition is between about 500:1 to about 1:500.

5. The process of Claim 1, wherein the polyolefin property is selected from the group consisting of flow index (I_{21}), melt index (I_2), density, MWD (M_w/M_n), comonomer content, and combinations thereof.

6. The process of Claim 1, wherein polyolefin property is flow index (I_{21}).

7. The process of Claim 1, wherein the reactor is a gas phase fluidized bed reactor.

8. The process of Claim 7, wherein the reactor temperature is from 60 to 115°C.

9. The process of Claim 1, wherein the catalyst composition is passed through an injection tube extending into the reactor a distance of 0.25 cm to 3.1 m.

10. The process of Claim 1, wherein the catalyst composition is passed through an injection tube extending into the reactor a distance of 5 cm to 1.5 m.

11. The process of Claim 9 or 10, wherein a carrier stream comprising an alkane is contacted with the catalyst composition prior to passing through the injection tube.

12. The process of Claim 11, wherein the carrier stream further comprises a carrier gas.

13. The process of Claim 1, wherein the catalyst component slurry comprises mineral oil.

14. The process of Claim 1, wherein the polyolefin product is a multimodal or bimodal polyethylene comprising a high molecular weight fraction and a low molecular weigh fraction; the polymer product having a density of from 0.930 g/cc to 0.965 g/cc and a Mw/Mn of from 20 to 50.

15. The process of Claim 1, wherein the polyolefin product is a multimodal or bimodal polyethylene comprising a high molecular weight fraction and a low molecular weigh fraction; and wherein the weight percent ratio is higher than 10 and less than 30.

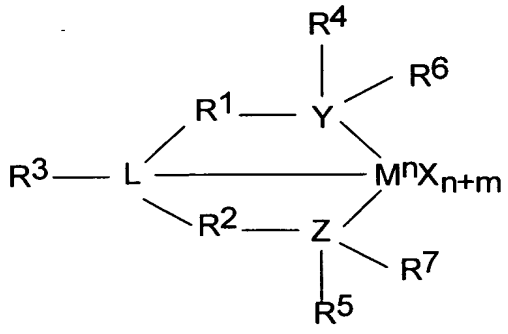
16. The process of Claim 1, wherein the polyolefin product is a multimodal or bimodal polyethylene comprising a high molecular weight fraction and a low molecular weigh fraction; and wherein the weight percent ratio is higher than 15 and less than 25.

17. The process of Claim 1, wherein the multimodal polyolefin is separated into fractions according to the following table:

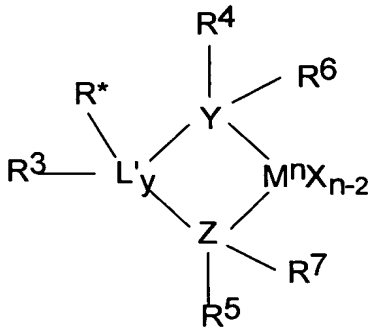
Sieve size	Fraction Collected	Fraction Name
10 mesh	> 2000 μm	Fraction 1
18 mesh	2000- 1000 μm	Fraction 2
35 mesh	<1000 - 500 μm	Fraction 3
60 mesh	<500-250 μm	Fraction 4
120 mesh	<250 -125 μm	Fraction 5
200mesh/Pan	<125 μm	Fraction 6

and the melt indices of Fractions 3, 4 and 5 do not vary by more than 30% relative to each other.

18. The process of Claim 3, wherein the Group 15 containing catalyst compound is represented by the formulae:



Formula I or



Formula II

wherein

M is a Group 4, 5, or 6 metal;

each X is independently a leaving group;

y is 0 or 1, wherein when y is 0, group L' is absent;

n is the oxidation state of M;

m is the formal charge of the ligand represented by YZL and YZL';

L, L', Y and Z are each a Group 15 element;

R^1 and R^2 are independently a C_1 to C_{20} hydrocarbon group, a heteroatom containing group having up to twenty carbon atoms, silicon, germanium, tin, lead, halogen or phosphorus;

R^3 is absent or a hydrocarbon group, hydrogen, a halogen, a heteroatom containing group;

R^4 and R^5 are independently an alkyl group, an aryl group, substituted aryl group, a cyclic alkyl group, a substituted cyclic alkyl group, a cyclic arylalkyl group, a substituted cyclic arylalkyl group or multiple ring system;

R^6 and R^7 are independently absent, or hydrogen, an alkyl group, halogen, heteroatom or a hydrocarbyl group; and

R^* is absent, or is hydrogen, a Group 14 atom containing group, a halogen, or a heteroatom containing group.

19. The process of Claim 3, wherein the bulky ligand metallocene catalyst compound is represented by the following formulae:

$L^AL^BMQ_n$ or $L^AAL^BMQ_n$

wherein M is a Group 4, 5 or 6 transition metal;
bulky ligands L^A and L^B are each bound to M and are unsubstituted or substituted cyclopentadienyl ligands or cyclopentadienyl-type ligands, heteroatom substituted or heteroatom containing cyclopentadienyl-type ligands;
Q is a monoanionic labile ligand; wherein each Q is bound to M;
A is a divalent bridging moiety bound to each of L^A and L^B; and
n is 0, 1 or 2

20. The process of Claim 1, wherein the support material is fumed silica.

21. A film, pipe or blow molded product comprising the multimodal polyolefin of Claim 1.